

Listing of Claims:

1-4. (canceled)

5. (previously presented) A method for assembling semiconductor devices, comprising the steps of:

providing a semiconductor wafer having a plurality of device units, said units having an active surface protected by an overcoat, said overcoat having a plurality of windows exposing the metal contact pads free of solder bumps and gold studs, a patterned barrier metal layer on said pad metal in said windows and on portions of said overcoat, which surround the perimeter of said windows, a plurality of patterned metal copper studs, one stud each on a barrier layer;

providing a leadframe having a plurality of segment groups, each group suitable for one of said device units, each segment having first and second ends covered by solderable metal;

placing a predetermined amount of solder paste on each of said first segment ends;

aligning said leadframe with said device units so that each of said paste-covered segment ends is aligned with the corresponding metal stud of the respective device unit; connecting said leadframe to said device units by contacting said metal studs and said first segment ends and reflowing said solder paste;

encapsulating said device units in a molding compound so that the active surface and exposed portion of the opposite surface of said device units and said first segment ends are covered by the molding compound, while said second segment ends remain exposed; and separating said encapsulated device units into individual encapsulated device units to create a plurality of assembled, packaged semiconductor devices.

6. (original) The method according to Claim 5 wherein said step of separating said encapsulated wafer comprises a sawing technique.

7. (original) The method according to Claim 5 wherein said step of separating said encapsulated wafer comprises a laser cutting technique.

8. (original) The method according to Claim 5 wherein said device units are integrated circuits.

9. (original) The method according to Claim 5 wherein said assembled, packaged semiconductor devices are chip-scale devices.

10-11. (canceled)

12. (previously presented) The method according to Claim 5 further comprising the step of attaching a heat spreader to the device units opposite said active surface prior to said step of encapsulating so that the spreader surface opposite said attached surface remains exposed.

13-32. (canceled)